

## SAFETY DATA SHEET

Version 6.18  
Revision Date 04/30/2025  
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## SECTION 1. IDENTIFICATION

## 1.1 Product identifiers

Product name : TRI Reagent®

Product Number : T9424

Brand : Sigma

## 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

## 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

## 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 3

Acute toxicity : Category 3

Sigma - T9424

Page 1 of 20

(Inhalation)

Acute toxicity (Dermal)	: Category 3
Skin corrosion	: Category 1B
Serious eye damage	: Category 1
Germ cell mutagenicity	: Category 2
Specific target organ toxicity - repeated exposure	: Category 2 (Nervous system, Kidney, Liver, Skin)
Short-term (acute) aquatic hazard	: Category 2
Long-term (chronic) aquatic hazard	: Category 2

### Other hazards

Contact with acids liberates very toxic gas.

### GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H227 Combustible liquid.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H341 Suspected of causing genetic defects.  
H373 May cause damage to organs (Nervous system, Kidney, Liver, Skin) through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P260 Do not breathe mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P391 Collect spillage.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Phenol	108-95-2*	>= 50 - < 70	-
guanidinium, thiocyanate (1:1)	593-84-0*	>= 30 - < 50	-

\* Indicates that the identifier is a CAS No.

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## SECTION 4. FIRST AID MEASURES

General advice	: First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.
If inhaled	: After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
In case of skin contact	: After contact with skin: rinse out with polyethylene glycol 400 or a mixture of polyethylene glycol 300/ethanol 2:1 and wash with plenty of water. If neither is available wash with plenty of water. Immediately take off contaminated clothing. Call a physician immediately.
In case of eye contact	: After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	: If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.
Most important symptoms and effects, both acute and delayed	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Protection of first-aiders	: For personal protection see section 8.
Notes to physician	: No data available

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## SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Water Foam Carbon dioxide (CO <sub>2</sub> ) Dry powder
Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting : Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products : Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Sulfur oxides

Specific extinguishing methods : No data available

Further information : Remove container from danger zone and cool with water.  
Suppress (knock down) gases/vapors/mists with a water spray jet.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:  
Do not breathe vapors, aerosols.  
Avoid substance contact.  
Ensure adequate ventilation.  
Keep away from heat and sources of ignition.  
Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:  
For personal protection see section 8.

- Environmental precautions : Do not let product enter drains.
- Methods and materials for containment and cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

- Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
- Advice on safe handling : Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
- Further information on storage conditions : Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.
- Materials to avoid : Do not store near acids.
- Storage class : 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials
- Recommended storage temperature : 36 - 46 °F / 2 - 8 °C

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Phenol	108-95-2	TWA	5 ppm	ACGIH
		TWA	5 ppm 19 mg/m <sup>3</sup>	NIOSH REL
		C	15.6 ppm 60 mg/m <sup>3</sup>	NIOSH REL
		TWA	5 ppm	OSHA Z-1

Sigma - T9424

Page 6 of 20

			19 mg/m <sup>3</sup>	
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### Biological occupational exposure limits

Components	CAS-No.	Control parameter s	Biological specimen	Sampling time	Permissible concentration	Basis
Phenol	108-95-2	Phenol	Urine	End of shift (As soon as possible after exposure ceases)	250 mg/g creatinine	ACGIH BEI

**Engineering measures** : No data available

### Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### Hand protection

Material : butyl-rubber  
Break through time : 480 min  
Glove thickness : 0.3 mm  
Protective index : Full contact  
Manufacturer : Butoject® (KCL 897 / Aldrich Z677647, Size M)

Material : Nitrile rubber  
Break through time : 120 min  
Glove thickness : 0.11 mm  
Protective index : Splash contact  
Manufacturer : Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Manufacturer	: data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
Remarks	: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
Eye protection	: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Skin and body protection	: protective clothing
Hygiene measures	: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: red
Odor	: No data available
Odor Threshold	: No data available
pH	: 3 - 6
Melting point	: No data available
Boiling point/boiling range	: No data available
Flash point	: 174 °F / 79 °C Method: closed cup



Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Flammability (liquids)	: No data available
Burning rate	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: 0.47 hPa
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies) Water solubility	: soluble
Partition coefficient: n- octanol/water	: No data available
Autoignition temperature	: 1319 °F / 715 °C
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Explosive properties	: Not classified as explosive.
Oxidizing properties	: none
Particle characteristics Particle size	: No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity : Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability	: The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	: Generates dangerous gases or fumes in contact with: Acids
Conditions to avoid	: Heat, flames and sparks.  Light.  Strong heating.
Incompatible materials	: Strong oxidizing agents Strong bases Strong acids Metals
Hazardous decomposition products	: In the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Mixture

##### Acute toxicity

Oral: No data available

Inhalation: No data available

Acute toxicity estimate Inhalation - 4 h - 0.8562 mg/l - dust/mist(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Acute toxicity estimate Dermal - 970.61 mg/kg  
(Calculation method)  
No data available

##### Skin corrosion/irritation

Remarks: No data available

Remarks: Mixture causes burns.

##### Serious eye damage/eye irritation

Remarks: No data available

Remarks: Mixture causes serious eye damage.  
Risk of blindness!

##### Respiratory or skin sensitization

No data available

**Germ cell mutagenicity**

No data available

Evidence of genetic defects.

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Remarks: No data available

Mixture may cause damage to organs through prolonged or repeated exposure.

- Nervous system, Kidney, Liver, Skin

**Aspiration hazard**

No data available

**11.2 Additional Information**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Circulatory collapse, tachypnea, paralysis, Convulsions, Coma., necrosis of mouth and G.I. Tract, Jaundice, respiratory failure, cardiac arrest, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

**Components****Phenol****Acute toxicity**

Acute toxicity estimate Oral - 100.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute toxicity estimate Inhalation - 4 h - 0.51 mg/l - dust/mist  
(Expert judgment)  
Symptoms: Irritation, Lung edema  
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)  
LD50 Dermal - Rat - female - 660 mg/kg  
(OECD Test Guideline 402)  
No data available

**Skin corrosion/irritation**

Skin - In vitro study  
Result: Causes burns.  
(OECD Test Guideline 431)

**Serious eye damage/eye irritation**

Eyes - Rabbit  
Result: Corrosive  
(OECD Test Guideline 405)  
Remarks: Causes serious eye damage.  
Risk of blindness!

**Respiratory or skin sensitization**

Sensitisation test: - Guinea pig  
Result: negative  
Remarks: (IUCLID)

**Germ cell mutagenicity**

Suspected of causing genetic defects.  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Test system: Chinese hamster ovary cells  
Result: positive  
Test Type: Mutagenicity (mammal cell test): micronucleus.  
Test system: Chinese hamster ovary cells  
Result: positive

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

Acute inhalation toxicity - Irritation, Lung edema

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.  
- Nervous system, Kidney, Liver, Skin  
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Aspiration hazard**

No data available

## **guanidinium, thiocyanate (1:1)**

### **Acute toxicity**

LD50 Oral - Rat - female - 593 mg/kg

(OECD Test Guideline 401)

Symptoms: Possible damages:, Nausea, Vomiting

Inhalation: No data available

Dermal: No data available

### **Skin corrosion/irritation**

Skin - Rabbit

Result: Corrosive after 1 to 4 hours of exposure - 4 h

(OECD Test Guideline 404)

### **Serious eye damage/eye irritation**

Remarks: Causes serious eye damage.

### **Respiratory or skin sensitization**

No data available

### **Germ cell mutagenicity**

Test Type: Ames test

Test system: *S. typhimurium*

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster fibroblasts

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

Acute oral toxicity - Possible damages:, Nausea, Vomiting

### **Specific target organ toxicity - repeated exposure**

### **Aspiration hazard**

No data available

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## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

#### **Product:**

Toxicity to fish : Remarks: No data available

Sigma - T9424

Page 13 of 20

## **Components:**

### **Phenol:**

Toxicity to fish	: LC50 ( <i>Onchorhynchus clarki</i> ): 8.9 mg/l Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Method: US-EPA
Toxicity to daphnia and other aquatic invertebrates	: EC50 ( <i>Ceriodaphnia dubia</i> (water flea)): 3.1 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: US-EPA
Toxicity to algae/aquatic plants	: EC50 ( <i>Pseudokirchneriella subcapitata</i> (algae)): 61.1 mg/l Exposure time: 96 h Test Type: static test Method: US-EPA
Toxicity to fish (Chronic toxicity)	: NOEC (Fish): 0.077 mg/l Exposure time: 60 d Test Type: semi-static test Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC ( <i>Daphnia magna</i> (Water flea)): 0.16 mg/l End point: Growth inhibition Exposure time: 16 d Test Type: semi-static test Remarks: (ECHA)
Toxicity to microorganisms	: IC50 (microorganisms): 21 mg/l Exposure time: 24 h Test Type: static test Remarks: (ECHA)

### **guanidinium, thiocyanate (1:1):**

Toxicity to fish	: LC50 ( <i>Poecilia reticulata</i> (guppy)): ca. 89.1 mg/l End point: mortality Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 ( <i>Daphnia magna</i> (Water flea)): 42.4 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 130 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: DIN 38412

Toxicity to microorganisms : EC50 (activated sludge): > 185 mg/l  
Exposure time: 28 h  
Test Type: static test  
GLP: yes  
Remarks: (ECHA)

### **Persistence and degradability**

#### **Product:**

Biodegradability : Remarks: No data available

#### **Components:**

##### **Phenol:**

Biodegradability : aerobic  
Inoculum: activated sludge  
Concentration: 100 mg/l  
Result: Readily biodegradable.  
Biodegradation: 62 %  
Exposure time: 100 h  
Method: OECD Test Guideline 301C

##### **guanidinium, thiocyanate (1:1):**

Biodegradability : aerobic  
Inoculum: activated sludge  
Concentration: 343 mg/l  
Dissolved organic carbon (DOC)  
Result: Inherently biodegradable.  
Biodegradation: 46 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302B

### **Bioaccumulative potential**

#### **Product:**

Bioaccumulation : Remarks: No data available

#### **Components:**

##### **Phenol:**

Bioaccumulation : Species: Danio rerio (zebra fish)  
Bioconcentration factor (BCF): 17.5  
Exposure time: 5 h

Temperature: 77 °F / 25 °C  
Concentration: 2 mg/l  
Method: OECD Test Guideline 305  
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 1.47 (86 °F / 30 °C)  
pH: 3 - 8  
Remarks: (ECHA)  
Bioaccumulation is not expected.

### **Mobility in soil**

#### **Product:**

Stability in soil : Remarks: No data available

### **Other adverse effects**

#### **Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

### **Components:**

#### **Phenol:**

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## **SECTION 14. TRANSPORT INFORMATION**

### **International Regulations**

#### **IATA-DGR**

UN/ID No. : UN 2922  
Proper shipping name : Corrosive liquid, toxic, n.o.s. (Phenol)

Sigma - T9424

Page 16 of 20



Class : 8  
 Subsidiary risk : 6.1  
 Packing group : II  
 Labels : Class 8 - Corrosive substances, Division 6.1 - Toxic substances  
 Packing instruction (cargo aircraft) : 855  
 Packing instruction (passenger aircraft) : 851

#### IMDG-Code

UN number : UN 2922  
 Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S. (Phenol)  
 Class : 8  
 Subsidiary risk : 6.1  
 Packing group : II  
 Labels : 8 (6.1)  
 EmS Code : F-A, S-B  
 Marine pollutant : yes

#### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### National regulation

##### 49 CFR Road

UN/ID/NA number : UN 2922  
 Proper shipping name : Corrosive liquids, toxic, n.o.s. (Phenol)  
 Class : 8  
 Subsidiary risk : 6.1  
 Packing group : II  
 Labels : Class 8 - Corrosive substances, Division 6.1 - Toxic substances  
 ERG Code : 154  
 Marine pollutant : no  
 Poison Inhalation Hazard : No

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phenol	108-95-2	1000	2000

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phenol	108-95-2	1000	2000

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

Components	CAS-No.	Component TPQ (lbs)
Phenol	108-95-2	10000
Phenol	108-95-2	500*

\*: Solid in the molten or powdered form (particles < 100 microns), in solution, or meeting the NFPA reactivity criteria

**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Phenol 108-95-2 >= 50 - < 70 %

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Phenol 108-95-2 >= 50 - < 70 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Phenol 108-95-2 >= 50 - < 70 %

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Phenol 108-95-2 >= 50 - < 70 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Phenol 108-95-2 >= 50 - < 70 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Phenol 108-95-2 >= 50 - < 70 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

Phenol 108-95-2 >= 50 - < 70 %

**US State Regulations****Massachusetts Right To Know**

Phenol 108-95-2

**Pennsylvania Right To Know**

Phenol

108-95-2

### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

### **Vermont Chemicals of High Concern**

Phenol

108-95-2

### **Washington Chemicals of High Concern**

Phenol

108-95-2

### **The ingredients of this product are reported in the following inventories:**

TSCA : All substances listed as active on the TSCA inventory

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## **SECTION 16. OTHER INFORMATION**

### **Full text of other abbreviations**

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	: 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a

test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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